

TRANSLATION:

The translation of this peer review is provided by *climatop* with the aim of reflecting the original German text in the most accurate way. In case of interpretation difficulties, please consult the original, valid German text.

Peer reviewer:

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Peer review of the study**“Balancing of climate relevant emissions of mixing nozzles and shower heads”**

dated 11.05.2009, conducted by David Wettstein, myclimate

Initial situation and assignment

In this project the foundation myclimate examined on behalf of Migros the environmental and climate charge of mixing nozzles and shower heads. Thereby, emissions through the whole life cycle were evaluated. The aim of the study was to find out if mixing nozzles and shower heads with saving function cause significantly lower climate relevant emissions than conventional products. Additionally the products with low climate relevant emissions also must have an overall environmental impact that is at least not higher than the one of the compared alternative. If those requirements are fulfilled, the products can be recommended for the climatop label. Carbotech AG was assigned with the conduct of a concomitant critical review.

Criteria and procedure of the critical review

The experience shows that the critical points of life cycle assessments are the definition of constraints, goal of the study, system boundaries, etc. Accordingly, especially these points are verified in a peer review. Additionally the used data, assumptions, calculations, data communications, etc. were reviewed on consistency and adequacy by means of a relevance based methodical sample.

According to ISO 14040ff, the process of a peer review shall ensure, that

- the applied methods are consistent with the international standard,
- the applied methods are scientifically and technically valid and applicable,
- the used data are appropriate and reasonable in relation to the goal of the study,
- the conclusions consider the goals and limitations of the study and
- the report is transparent and consistent.

Within this review all of these points were examined as well as additionally the plausibility of the results was reviewed.

The review was conducted concomitantly to the study by discussing the most important decisions such as the definition of the functional unit or of the system boundaries and the intermediate results as well as their plausibility. The results of these discussions have been integrated in the calculations and the final report.

This review is based on these discussions on the one hand and on the other hand on the final report of 11th May 2009.

Statement on the final report of the study

Aims and parameters

The chosen parameters such as functional unit, system boundaries and the considered indicators are adequate for the imposed goal definition. The functional unit was defined as “5 minutes water from nozzle/shower head at equal opening degree”. The user’s sensation of the water jet from different products (e.g. only water compared to a mix of water and air) was discussed. On the basis of comprehensible and reasonable argumentation it was decided, that the products are compared at equal opening degrees. The description of system boundaries includes a clear definition of what was and what was not considered.

The validity of the label, which is to be assigned, is constricted to Migros. If there is another composition of the assortment, a new analysis needs to be conducted.

Although the primary aim of the study was to evaluate the climate relevant emissions, also the overall environmental impact was considered using the Swiss method of ecological scarcity (Environmental Impact Points, UBP 06). This is considered as extremely desirable, as experience shows that the results on climate impact do not have to be in accordance with those on overall environmental impact. Due to this additional evaluation of the overall environmental impact, the climatop label is conferred on criteria which ensure that the labelled products also come off well regarding overall environmental impact.

Methods and data

The procedure and methods used within this study are scientific, comprehensive and consistent with aims and constraints of the study.

The relevant data, gathered by the authors of the study, was examined regarding plausibility. Generally a high replicability is given due to the transparent allocation of primary data to the data fromecoinvent used for calculations. This allocation was reviewed by means of samples and considered as accurate.

Results and discussion

The results were reviewed regarding their plausibility. In the course of this, the transparent description of the different steps of the life cycle was helpful. The data integrated in the software as well as the results outlined in the report were examined by means of different samples. Due to these examinations and the review of the input data I consider the results regarding impact on climate and environment in general as correct. The description of the uncertainty of the results, which permit a better interpretation of the differences between the results, needs to be pointed out positively. The results answer the initially defined questions.

Summary

The results regarding impact on climate on the one hand and environment on the other hand are plausible and seem to be correct according to the performed examinations. The procedure is scientifically correct and corresponds to the initially defined objectives. The discussion of the relevant influencing factors on the results needs to be pointed out positively.

The resulting recommendations to climatop are comprehensible and conclusive.

Basel, 31th March 2010

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